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10/014,106	12/11/2001	Kyle G. Brown	RSW920010188US1	2639
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Theodore Naccarella, Esquire Synnestvedt & Lechner 2600 Aramark Tower 1101 Market Street Philadelphia, PA 19107-2950			SWEARINGEN, JEFFREY R	
			ART UNIT	PAPER NUMBER
			2145	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/014,106	BROWN ET AL.
	Examiner	Art Unit
	Jeffrey R. Swearingen	2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 11 December 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-48 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-48 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 19 February 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION***Specification***

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.
2. The use of multiple trademarks has been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner has looked through the specification closely to attempt to find a definition of computer program product. In the preamble to claim 1, Applicant has defined a computer program product as being recorded upon a computer readable medium. At the end of the claim, Applicant has stated that a computer program product is in the form of a Web service. The Examiner is unclear how a computer program product recorded upon a computer readable medium is a Web service (*wherein said computer program product is in the form of a Web service*). A Web

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service is a method that can be performed over the World Wide Web. A computer program product recorded upon a computer readable medium is by definition not a method, since it is tangibly embodied.

5. Claims 1-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1-25 refer to "containers", which are computer program products recorded upon computer readable media for organizing and manipulating Web services according to the preamble of claim 1. In the second clause of claim 1, it is disclosed that "containers", or computer program products embodied upon computer-readable media, can transmit to other "containers", or computer program products embodied upon computer readable media. The Examiner is unclear how a computer program product embodied upon computer readable media transmits to another computer program product upon computer readable media based upon Applicant's specification. Page 25 of the specification further refers to "containers" as software modules, but does not explain fully the data transfer process.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 25 recites the limitation "said computer program". There is insufficient antecedent basis for this limitation in the claim. Claims 26-48 are dependent upon claim 25, and are thereby indefinite by dependence.

9. Claims 1-4, 7, 11-19, 21-24, and 26 refer to "computer readable code". The Examiner is unclear what Applicant means by "computer readable code" or how "computer readable code" would be embodied in order to make said code computer readable.

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10. Claims 1-48 are rejected because the Examiner is unclear where the messages being transmitted to other "containers" are being originated. The claim and specification are unclear on whether the originator is the node which will receive the Web services, a program separate but local to the node, or an outside originating entity.

11. Claims 1-48 are rejected because the Examiner is unclear what Applicant means by "dynamically reconfiguring Web services based on said messages and said Web services available at said corresponding network node." The language is confusing and the Examiner is unclear if the messages are at the corresponding network node, the web services are active at the corresponding network node, the web service can be downloaded at the corresponding network node, or if the messages are local.

12. Claim 2 is rejected because the Examiner is unclear what the difference is between requesting a copy of Web services software and receiving requested Web services software. The claim language is unclear as to whether the requested Web services software being received is in fact a copy of the Web services software being requested.

13. Claim 3 is rejected because the wording of the claim confuses the transmission, receipt, and generation of messages. The Examiner is confused if the messages being generated are in fact the messages being transmitted and received.

14. Claim 4 is rejected because the Examiner is confused whether the Web services registry being referred to is in fact a container as referred to in claim 1.

15. Claims 7, 12 are rejected because the Examiner is confused whether the messages disclosing Web services available at network nodes detail if these services are available locally or if these services are available on other network nodes besides the local requestor.

16. Claim 13 is rejected because the Examiner is unclear whether the response being received to said request is a message indicating the Web service can be downloaded or the downloaded Web service software.

17. Claim 14 is rejected because it is unclear based upon claim dependency whether the request is actually initially issued by a "container".

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18. Claim 17 is rejected because the Examiner is unclear what Applicant means by "offloading said local code for said particular Web service." The Examiner is unclear if the code is being offloaded, if the web service is being offloaded, if the code is being offloaded as part of the web service.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

20. Claim 1-4, 7-9, 11-14, 22-23, 25-28, 31-33, 35-38, and 46-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Zintel et al. (U.S. Patent No. 6,910,068).

21. In regard to claim 1, Zintel discloses *determining and describing Web services that are available at a corresponding network node* (Simple Service Discovery Protocol, column 12, lines 31-59); *transmitting to other containers messages via a network disclosing said Web services that are available at said corresponding network node* (any change in a SST [Service State Table] is announced to all interested User Control Points, column 17, lines 51-55); *receiving and deciphering messages disclosing Web services that are available at other network nodes corresponding to other containers* (Simple Service Discovery Protocol, column 12, lines 31-59); and *dynamically reconfiguring Web services based on said messages and said Web services available at said corresponding network node* (control using UPnP networking and the Simple Service Discovery Protocol, column 57, line 24 – column 58, line 34); *wherein said computer program product is in the form of a Web service* (UpnP discovery protocols occur over the Web as described in Zintel).

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22. In regard to claim 2, Zintel is applied as in claim 1. Zintel further discloses *transmitting messages to said other containers requesting said other containers to return copies of Web services software and responsive to receipt of messages from said other containers requesting copies of Web services software, for sending said requested Web services software to said requesting containers.* In column 58, lines 41-65, Zintel sends messages requesting the UPnP description of a devices services and their parameters and controls and this is returned to the requestor. The XML syntax of the description is *Web services software.*

23. In regard to claim 3, Zintel is applied as in claim 2. Zintel further discloses *transmitting and receiving said messages disclosing said Web services that are available generate messages that are hardware and software platform independent.* In Zintel, column 57, lines 17-20 and line 44, it is shown that the messages are standard HTTP over TCP/IP and involving XML commands, which are hardware and software platform independent.

24. In regard to claim 4, Zintel is applied as in claim 3. Zintel further discloses *transmitting and receiving said messages to and from a Web services registry.* Contacting the UPnP template to find out the UPnP description for a device is *transmitting and receiving said messages to and from a Web services registry* as shown in column 58, lines 35-65.

25. In regard to claim 7, Zintel is applied as in claim 3. Zintel further discloses *sending and receiving said messages using a peer to peer messaging protocol between said containers.* Zintel discloses using the SOAP protocol for sending messages between peers in column 57, lines 17-22.

26. In regard to claim 8, Zintel is applied as in claim 7. Zintel further discloses use of the SOAP protocol. See column 57, lines 17-22.

27. In regard to claim 9, Zintel is applied as in claim 8. Zintel further discloses *disclosures of said Web services that are available at network nodes are contained in headers of Simple Object Access Protocol (SOAP) messages.* See Zintel, column 57, lines 12-22.

28. In regard to claim 11, Zintel is applied as in claim 3. Zintel further discloses *receiving requests for Web services from client computers via said network.* See Zintel, column 57, lines 12-51, where the

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information about devices and services is shared over the network via messages. Column 58, lines 41-49 is further a request for more information about a device or service over a network by a client.

29. In regard to claim 12, Zintel is applied as in claim 11. Zintel further discloses *responsive to receipt of a request from a client for a Web service that is not available at said corresponding network node; determines, based on said received messages disclosing said Web services that are available at network nodes, what network nodes have copies of said particular Web service; and invokes a proxy to another of said containers having a copy of a particular Web services based on said determination.* In Zintel, column 47, line 43 – column 48, line 8, proxies are disclosed as redirecting discovery requests for services to the appropriate device.

30. In regard to claim 13, Zintel is applied as in claim 12. Zintel further discloses *routing client requests for said particular Web service to said other of said containers; receiving responses to said requests; and returning said responses to said requesting clients.* As shown in the rejection of claim 12, Zintel teaches proxies that allow for rerouting of requests for Web services and returning responses to the requesting client. See Zintel, column 47, line 43 – column 48, line 8.

31. In regard to claim 14, Zintel is applied as in claim 13. Zintel further discloses *receiving said requests forwarded from other of said containers and causing said requests to be handled by said copy of said particular Web service corresponding to said computer program product to generate said response; and transmitting said response to said container that issued said request.* In column 47, lines 33-42, web services are registered with a directory such as a proxy as shown in lines 43-45. in lines 30-32, services listen to see if they can provide a service and respond if so.

32. In regard to claim 22, Zintel is applied as in claim 11. Zintel further discloses *said client requests indicate whether said requesting client has a container and a platform on which said client is running and computer readable code to read said client requests to determine whether said client has a container and said platform.* Services discover information about their peers in Zintel, column 48, lines 3-8. Zintel further discloses the establishment of profiles to define contracts between clients and services in order to determine compliance with the profile of the client (e.g. *said client requests indicate whether said*

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requesting client has a container and a platform on which said client is running and read said client requests to determine whether said client has a container and said platform). Column 47, lines 19-42.

33. In regard to claim 23, Zintel is applied as in claim 22. Zintel further discloses *sending a copy of the code of a particular Web service responsive to a client request for said Web service*. Zintel discloses providing a service to a client over a network. Column 51, lines 10-27, column 58, lines 6-34.

34. Claim 25 has substantially the same limitations as claim 1 and the rejection of claim 1 is applied likewise against claim 25.

35. Claim 26 has substantially the same limitations as claim 2 and the rejection of claim 2 is applied likewise against claim 26.

36. Claim 27 has substantially the same limitations as claim 3 and the rejection of claim 3 is applied likewise against claim 27.

37. Claim 28 has substantially the same limitations as claim 4 and the rejection of claim 4 is applied likewise against claim 28.

38. Claim 31 has substantially the same limitations as claim 7 and the rejection of claim 7 is applied likewise against claim 31.

39. Claim 32 has substantially the same limitations as claim 8 and the rejection of claim 8 is applied likewise against claim 32.

40. Claim 33 has substantially the same limitations as claim 9 and the rejection of claim 9 is applied likewise against claim 33.

41. Claim 35 has substantially the same limitations as claim 11 and the rejection of claim 11 is applied likewise against claim 35.

42. Claim 36 has substantially the same limitations as claim 12 and the rejection of claim 12 is applied likewise against claim 36.

43. Claim 37 has substantially the same limitations as claim 13 and the rejection of claim 13 is applied likewise against claim 37.

44. Claim 38 has substantially the same limitations as claim 14 and the rejection of claim 14 is applied likewise against claim 38.

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45. Claim 46 has substantially the same limitations as claim 22 and the rejection of claim 22 is applied likewise against claim 46.

46. Claim 47 has substantially the same limitations as claim 23 and the rejection of claim 23 is applied likewise against claim 47.

Claim Rejections - 35 USC § 103

47. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

48. Claims 5 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel in view of Christensen et al. (Web Services Description Language 1.1, W3C Note 15 March 2001).

49. In regard to claim 5, Zintel is applied as in claim 4. Zintel fails to teach the use of WSDL. However, Christensen teaches that WSDL is an XML format for describing network services. See Christensen, Abstract. Zintel has previously been shown to use XML to describe Web services. Therefore, it would have been obvious to one of ordinary skill in the art to combine the Zintel invention with the teachings of Christensen because Zintel uses XML to describe network services and Christensen teaches a format that is a known XML format variant for describing network services.

50. Claim 29 has substantially the same limitations as claim 5 and the rejection of claim 5 is applied likewise against claim 29.

51. Claims 6 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel in view of Christensen in further view of Januszewski (Web Service Description and Discovery Using UDDI, Part I, October 3, 2001).

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52. In regard to claim 6, Zintel in view of Christensen is applied as in claim 5. Zintel in view of Christensen discloses a combination that uses XML with WSDL in order to describe network services. Zintel in view of Christensen fail to disclose using UDDI with WSDL. However, Januszewski discloses that USDDI is a public registry for use with XML and WSDL for describing Web services. Because Zintel uses XML to describe network services over a web, and because Christensen expands on using XML to describe network services by using WSDL as an XML format, and because Januszewski teaches that an expansion of using WSDL for describing Web services is to use UDDI registries with WSDL, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Zintel in view of Christensen with the teachings of Januszewski.

53. Claim 30 has substantially the same limitations as claim 6 and the rejection of claim 6 is applied likewise against claim 30.

54. Claims 10 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel in view of Project JXTA (Collab.Net, Inc., May 15, 2001, <http://web.archive.org/web/20010515211442/http://www.jxta.org>).

55. In regard to claim 10, Zintel is applied as in claim 7. Zintel discloses messaging using a group of protocols that are designed to be cross-platform, including SSDP, GENA, and SOAP. See Zintel, column 57, lines 12-22. Zintel fails to disclose the use of JXTA as a protocol for transmitting messages between platforms. However, Project JXTA shows that on April 25, 2001, Project JXTA went live as an open sources effort to create an open, generalized protocol that interoperates with any peer on the network including PCs, servers, and other connected devices. Because Zintel describes multiple cross-platform protocols for messaging between systems, and because Zintel allows for modifications as taught in column 75, lines 30-36, and because Project JXTA is expressly designed as a cross-platform protocol for transmitting messages between peers as described in "What is Project JXTA?", and because Project JXTA is open source, therefore allowing more developers to make use of the protocol, it would have been obvious at the time of the invention for one of ordinary skill in the art to use the JXTA protocol with the Zintel invention.

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56. Claim 34 has substantially the same limitations as claim 10 and the rejection of claim 10 is applied likewise against claim 34.

57. Claims 15-21 and 39-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel in view of Jindal et al. (U.S. Patent No. 6,327,622).

58. In regard to claim 15, Zintel is applied as in claim 14. Zintel fails to disclose using load determination to select an appropriate location to get service information and services over a network. However, Jindal discloses that networks commonly use load balancing for distributing and rerouting client requests based on how much demand is placed upon a certain server at a certain time. See Jindal, column 2, lines 47-67 for a basic description of load balancing in networking. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Zintel invention with the load balancing techniques of Jindal in order to provide the services to the users as best possible based upon current client requests. (See Jindal, column 1, lines 24-48).

59. In regard to claim 16, Zintel in view of Jindal is applied as in claim 15. Jindal further discloses the ability for utilizing an alternate server to provide a service if the original server is experiencing too high of a load. See Jindal, column 1, lines 25-40. See Jindal, column 1, lines 64-67. See Jindal, column 2, lines 6-8. See Jindal, column 2, lines 57-67. See Jindal, column 10, lines 40-50.

60. In regard to claim 17, Zintel in view of Jindal is applied as in claim 16. Jindal further discloses the ability of a client to redirect requests back to the original server when it becomes preferable again (e.g. *when the load of client requests for said particular Web services drops below a second predetermined level*) to use the original server. See Jindal, column 2, lines 53-55.

61. In regard to claim 18, Zintel in view of Jindal is applied as in claim 15. Jindal further discloses distributing client requests among multiple servers that can offer the same service by using a replicated service (*requesting another server to supply a service to a client* is a replicated service as described in Jindal). See Jindal, column 1, lines 25-58.

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62. In regard to claim 19, Zintel in view of Jindal is applied as in claim 18. Jindal further discloses routing client requests for a service to another server (container) in order to fulfill the request. See Jindal, column 2, lines 47-56.

63. In regard to claim 20, Zintel in view of Jindal is applied as in claim 19. Jindal further discloses a *plurality of containers (servers)* are present. See Jindal, column 2, lines 47-56.

64. In regard to claim 21, Zintel in view of Jindal is applied as in claim 20. Jindal further discloses distribution of requests for a service over multiple servers. See Jindal, column 2, lines 47-56.

65. Claim 39 has substantially the same limitations as claim 15 and the rejection of claim 15 is applied likewise against claim 39.

66. Claim 40 has substantially the same limitations as claim 16 and the rejection of claim 16 is applied likewise against claim 40.

67. Claim 41 has substantially the same limitations as claim 17 and the rejection of claim 17 is applied likewise against claim 41.

68. Claim 42 has substantially the same limitations as claim 18 and the rejection of claim 18 is applied likewise against claim 42.

69. Claim 43 has substantially the same limitations as claim 19 and the rejection of claim 19 is applied likewise against claim 43.

70. Claim 44 has substantially the same limitations as claim 20 and the rejection of claim 20 is applied likewise against claim 44.

71. Claim 45 has substantially the same limitations as claim 21 and the rejection of claim 21 is applied likewise against claim 45.

72. Claims 24 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel.

73. In regard to claim 24, Zintel is applied as in claim 11. Zintel fails to disclose monitoring use of a service by a client and charging for use of a service. However, one of ordinary skill in the art would find it obvious and be motivated to charge a client for use of any type of service in a computer network for the purpose of granting the supplier of the service commercial success and financial gain.

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74. Claim 48 has substantially the same limitations as claim 24 and the rejection of claim 24 is applied likewise against claim 48.

Conclusion

75. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Slivka et al.	U.S. Pub. No. 2001/0042112
D'Souza et al.	U.S. Patent No. 6,745,224
Slivka et al.	U.S. Patent No. 6,256,668
Simpson et al.	U.S. Pub. No. 2003/0093529
Reisman	U.S. Patent No. 6,557,054
Fraig et al.	U.S. Patent No. 6,496,858
Weisshaar et al.	U.S. Patent No. 6,757,262
Narin et al.	U.S. Patent No. 6,691,176
Immerman et al.	U.S. Patent No. 6,785,721

Wolter, Roger. "XML Web Services Basics". Microsoft Corporation, December 2001. MSDN Library.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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